

Scout Report sent out
 Noted in the NID File
 Location map pinned
 Approval or Disapproval Letter
 Date Completed, P. & A. or
 operations suspended
 Pin changed on location map
 Affidavit and Record of A & P
 Water Shut-Off Test
 Gas-Oil Ratio Test
 Well Log Filed

3/11/56

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Re-work Comp. 3-10-56-HW

FILE NOTATIONS

Entered in NID File ☒
 Entered On S R Sheet ☒
 Location Map Pinned ☒
 Card Indexed ☒
 IWR for State or Fee Land ☐

Checked by Chief _____
 Copy NID to Field Office _____
 Approval Letter ☒
 Disapproval Letter _____

COMPLETION DATA:

Date Well Completed 8-23-48
 OW _____ WW _____ TA _____
 GW ☒ CS _____ PA _____

Location Inspected _____
 Bond released _____
 State of Fee Land _____

LOGS FILED

Completion Report 4-2-56

Electric Logs (No.) 2
 E ☒ I _____ E-I _____ GR _____ GR-N _____ Micro _____
 Lat _____ Mi-L _____ Sonic _____ Others Radiation Log

(SUBMIT IN TRIPLICATE)

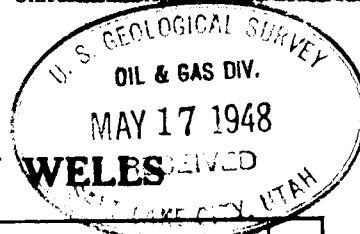
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

5-19-48

Land Office Salt Lake City

Lease No. 064896

Unit Ellen V. Crittendon



SUNDRY NOTICES AND REPORTS ON **WELES**

NOTICE OF INTENTION TO DRILL	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 12, 1948

Well No. 1 is located 660 ft. from DN line and 660 ft. from EW line of sec. 12

SW 1/4 of SE 1/4 - 12
(1/4 Sec. and Sec. No.)

17 S
(Twp.)

25 E
(Range)

(Meridian)

Bar X
(Field)

Grand
(County or Subdivision)

Utah
(State or Territory)

The elevation of the derrick floor above sea level is Report flater

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

and cement

Plan to set/20' of 20" conductor pipe, drill with rotary tools, set 13-3/8" casing at 500' and circulate cement. Drill 9" hole and test all sands to base of Morrison Formation at approximately 4250'. 9-5/8" casing will be run and cemented if required, and 7" casing will be set and cemented if production is found in Morrison Sands. Estimate sand tops - Frontier at 2850', Dakota at 3200', Morrison at 3400' to 3950'.

(SEE ATTACHED RIDER FOR APPROVAL)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Stanolind Oil and Gas Co.

Address Loyd, Colorado

By

Title

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Salt Lake City
Land Office 064506
Lease No.
Unit Ellen V. Crittenden

12

21-48
SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	Notice of setting 13-3/8" Casing	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 17, 1948

Well No. 1 is located 660 ft. from ^N_S line and 660 ft. from ^E_W line of sec. 12
SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 12 T 17 S R 25 E
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Bar X Grand Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5210* ft. *Altimeter reading

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Set 440' of 13-3/8" OD Youngstown Plain End Slip Joint Spiral Weld Casing and 44' of 13-3/8" OD Gr. H-40 R-2 T&C Casing. Casing was landed at 496 feet and cemented with 402 sacks of Ideal Portland Cement to surface. Let cement set 24 hours and went in hole with 7 drill collars and 8 joints of 4 1/2" drill pipe. Found plug at 475'. Circulated and tested casing with 700# of pressure for 30 minutes from 12:15 to 12:45. Casing tested OK.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

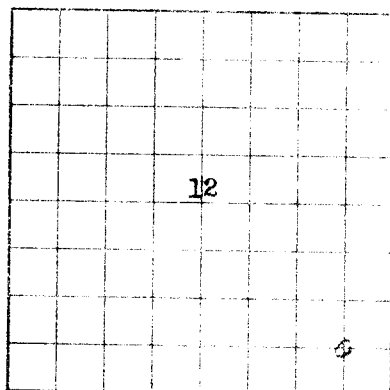
Company Stanolind Oil and Gas Company

Address Loyd, Colorado

By J. M. Roe

Title Field Supt.

Form 1000-10-30-46



LOCATE WELL CORRECTLY

U. S. LAND OFFICE Salt Lake City
SERIAL NUMBER 064806
LEASE OR PERMIT TO PROSPECT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Stanolind Oil and Gas Company Address Loyd, Colorado
Lessor or Tenant E. V. Crittenden Field Bar-X-Anticline State Utah
Well No. 1 Sec. 12 T. 17S R. 25E Meridian Grand
Location 660 ft. S of S Line and 660 ft. W of E Line of Sec. 12 Elevation 5008
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available reports.

Date August 29, 1948

Signed

Title Field Supt

The summary on this page is for the condition of the well at above date.

Commenced drilling June 8, 1948 Released to The Frontier Refining Company
Finished drilling August 3, 1948

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 2810	to 2960 (G)	No. 4, from 3605	to 3716 (G)
No. 2, from 2960	to 3215 (G)	No. 5, from	to
No. 3, from * 3533	to 3605 (G)	No. 6, from	to

IMPORTANT WATER SANDS

No. 1, from 3716	to 3832	No. 3, from	to
No. 2, from 3958	to 4012	No. 4, from	to

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
13-3/8"	48	8	Armco	489	Baker				Surface Pipe

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8"	497'	400	Halliburton	10.3	none

PLUGS AND ADAPTERS

Material	Length	Depth set
Adapters—Material		

Drill hole	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

NONE

TOOLS USED

Rotary tools were used from 0' feet to 4497' feet, and from _____ feet to _____ feet
 Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

_____, 19____
 Released to The Frontier Refining Company
 Put to producing 12:00 on August 3, 1948

The production for the first 24 hours was _____ barrels of fluid of which _____ % was oil; _____ %
 emulsion; _____ % water; and _____ % sediment. Gravity, °Bé. _____

If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____

Rock pressure, lbs. per sq. in. _____

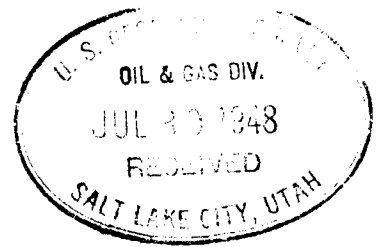
EMPLOYEES

W. A. Turner _____, Driller
 Marvin Jackson _____, Driller
 Glenn W. Chivers _____, Driller
 _____, Driller

FORMATION RECORD

FROM-	TO-	TOTAL FEET	FORMATION
2810	2960	150	Dakota SS
2960	3215	255	Lakota SS
3215	3330	115	First Morrison SS
3330	3533	203	Second Morrison SS
3533	3605	72	Salt Wash
3605	3832	227	Entrada SS
3832	4497	665	Navejo SS
4497	Well Released to The Frontier Refining Company, 410 Boston Building, Denver, Colorado for completion.		
LEON			

(over)

STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORTLEASE: E. V. CRITTENDEN WELL NO.: 1 TEST NO. 14FIELD: BAR X ANTICLINE COUNTY: GRAND STATE: UTAHDATE AND TIME OF TEST: 7-23-48 5:15 AM.NAME OF SECTION TESTED: NAVAJO SANDSTONE TESTED FROM 4046' TO 4096'REASON FOR TEST: DETERMINE VALUE OF SANDSTONE PERMEABILITYCOMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING CO.TYPE PACKER AND WHERE SET: WALL TYPE @ 4046'TOP OF SAND OR PAY: 4044' BASE OF SAND OR PAY: 4087' TOTAL DEPTH: 4096'WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 1 HOURLENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 1/4 HOURSIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE, BOTTOM: 5/8" TOP: _____RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEET

WATER " " " " " " " " " " " "

MUD " " " " " " " " " " " "

GAS: ESTIMATED 100,000 CU. FT. GAS OIL RATIO: 255' GAS SAT. 30-40 (WATER SAT) API 16

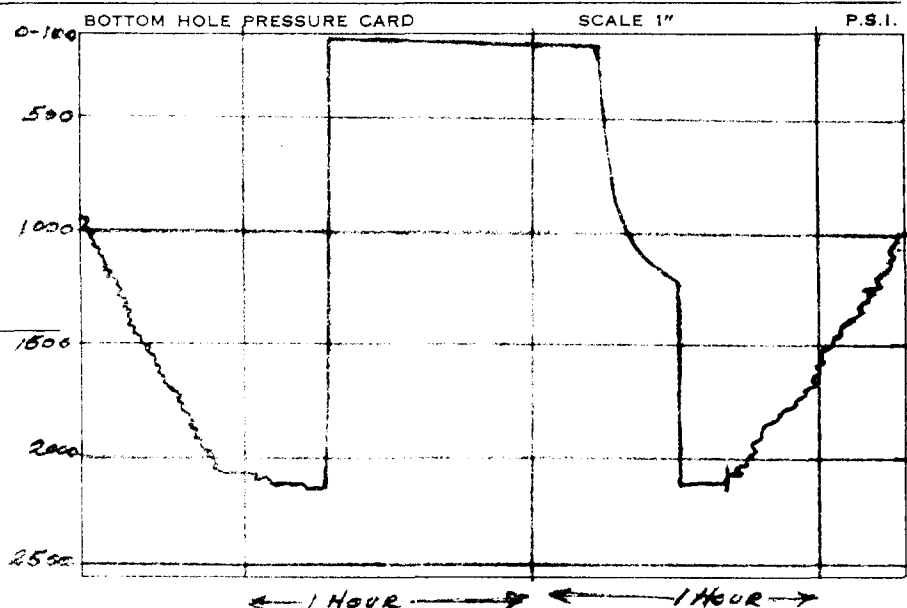
OTHER RESULTS: _____

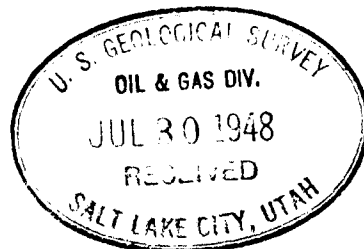
SURFACE PRESSURES: _____

BOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN 0" END OF TEST, TOOL OPEN 50" SHUT-IN FORMATION 1150"

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM _____ DIFFERENCE _____

MUD COLUMN PRESSURE ON BOMB 2100" CALCULATED 2079" MUD WEIGHT 9.8 LBS./GAL.NUMBER OF TIMES TOOL OPENED 1 DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? NODID FLUID DROP IN ANNULUS? NO IS TEST CONCLUSIVE? YESREMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)PREPARED BY W. F. K. K. K.

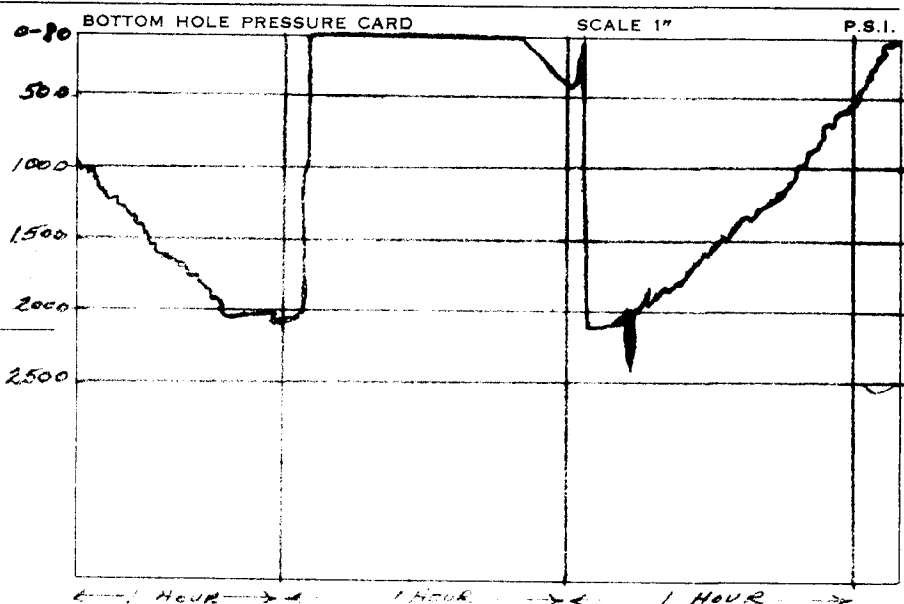
STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORTLEASE: E. V. CRITTENDEN WELL NO.: 1 TEST NO. 13FIELD: BAR X ANTICLINE COUNTY: GRAND STATE: UTAHDATE AND TIME OF TEST: 7-21-48 @ 8:10 PMNAME OF SECTION TESTED: WINGATE TESTED FROM 4011' TO 4041'REASON FOR TEST: DETERMINE VALUE OF SANDSTONE POROSITYCOMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING CO.TYPE PACKER AND WHERE SET: 4011'TOP OF SAND OR PAY: 4011' BASE OF SAND OR PAY: 4038' TOTAL DEPTH: 4041'WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 45 MIN.LENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 15 MIN.SIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE, BOTTOM: 5/8" TOP: .RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEETWATER " " _____ " " " NONE "MUD " " _____ " " " 10' RPT. HOLE MUDGAS: NONE GAS OIL RATIO: _____

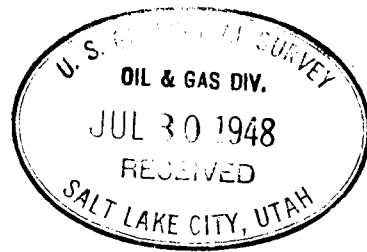
OTHER RESULTS: _____

SURFACE PRESSURES: _____

BOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN 0 END OF TEST, TOOL OPEN 0 SHUT-IN FORMATION _____

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM 51 DIFFERENCE _____MUD COLUMN PRESSURE ON BOMB 2100 CALCULATED 2080 MUD WEIGHT 9.9 LBS / GAL.NUMBER OF TIMES TOOL OPENED 1 DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? NODID FLUID DROP IN ANNULUS? NO IS TEST CONCLUSIVE? YESREMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)PREPARED BY P. T. Kahan

STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORTLEASE: E. V. CRITTENDEN WELL NO.: 1 TEST NO. 12FIELD: BAXX ANTICLINE COUNTY: GRAND STATE: UTAHDATE AND TIME OF TEST: 7-21-48NAME OF SECTION TESTED: WINGATE (?) TESTED FROM 4008' TO 4038'REASON FOR TEST: DETERMINE VALUE OF SANDSTONE POROSITYCOMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING CO.TYPE PACKER AND WHERE SET: WALL TYPE @ 4008'TOP OF SAND OR PAY: 4011 BASE OF SAND OR PAY: 4038 TOTAL DEPTH: 4038WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 45 MIN.LENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 10 MIN.SIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE, BOTTOM: 5/8" TOP: _____RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEETWATER " " " " " NONE "MUD " " " " " NONE "GAS: NONE GAS OIL RATIO: _____OTHER RESULTS: TEST TOOL PLUGGED w/ SAND. No SHUT IN PRESSURE
READING ON CHART (REFER BEARER TEST #13)

SURFACE PRESSURES: _____

BOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN _____ END OF TEST, TOOL OPEN _____ SHUT-IN FORMATION _____

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM 0" DIFFERENCE _____MUD COLUMN PRESSURE ON BOMB 2100# CALCULATED 2079 MUD WEIGHT 9.9 LBS./GAL.NUMBER OF TIMES TOOL OPENED 1 DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? YESDID FLUID DROP IN ANNULUS? No IS TEST CONCLUSIVE? NoREMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)

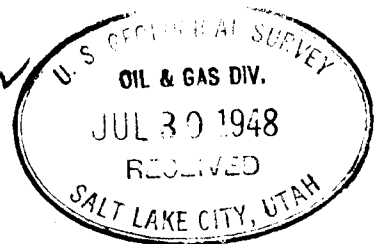
PREPARED BY _____

BOTTOM HOLE PRESSURE CARD

SCALE 1"

P.S.I.

STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORT



LEASE: E. V. CRITTENDEN WELL NO.: 1 TEST NO. 11

FIELD: BAR X ANTICLINE COUNTY: GRAND STATE: UTAH

DATE AND TIME OF TEST: 7-20-48 5:58 AM

NAME OF SECTION TESTED: WINGATE (P) TESTED FROM 3972 TO 4012

REASON FOR TEST: DETERMINE VALUE OF POROSITY OF FORMATION.

COMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING Co.

TYPE PACKER AND WHERE SET: WALL TYPE @ 3972

TOP OF SAND OR PAY: 3977 BASE OF SAND OR PAY: 4006 TOTAL DEPTH: 4012

WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 1 Hour

LENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 15 MIN.

SIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE, BOTTOM: 5/8 TOP: _____

RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEET

WATER " " " " " 127' (2 1/2 BBL)

MUD " " " " " 203' SALT (4 BBL)

GAS: ESTIMATED 300,000 CU. FT. GAS OIL RATIO: _____

OTHER RESULTS: _____

SURFACE PRESSURES: _____

BOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN _____ END OF TEST, TOOL OPEN 200* SHUT-IN FORMATION 1200*

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM _____ DIFFERENCE _____

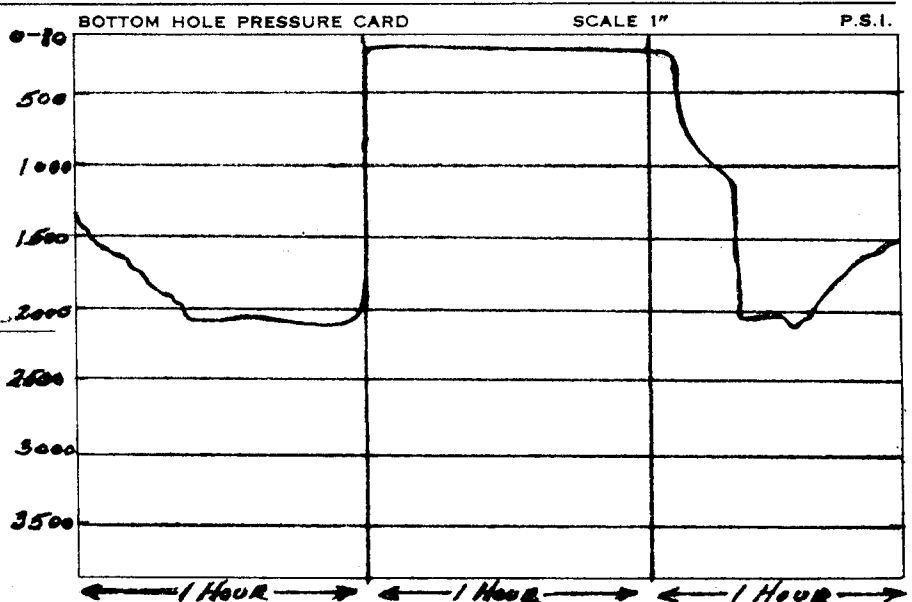
MUD COLUMN PRESSURE ON BOMB 2200* CALCULATED 2086 MUD WEIGHT 10 LBS./GAL.

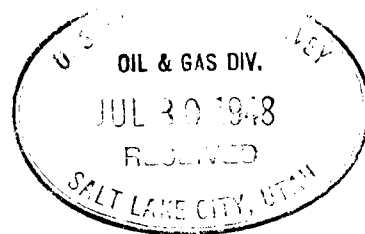
NUMBER OF TIMES TOOL OPENED 1 DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? No

DID FLUID DROP IN ANNULUS? No IS TEST CONCLUSIVE? YES

REMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)

PREPARED BY B. F. Rakestraw



STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORT

LEASE: E. V. CALTENDEN WELL NO.: 1 TEST NO. 10
FIELD: BAR X ANTICLINE COUNTY: GRAND STATE: UTAH
DATE AND TIME OF TEST: 7-18-48 2:27 PM.
NAME OF SECTION TESTED: ANTRADA-NAVAJO TESTED FROM 3935' TO 3958'
REASON FOR TEST: DETERMINE VALUE OF POROSITY IN SANDSTONE

COMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING Co.

TYPE PACKER AND WHERE SET: WALL TYPE @ 3935'

TOP OF SAND OR PAY: _____ BASE OF SAND OR PAY: _____ TOTAL DEPTH: 3958

WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 15 MIN.

LENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 15 MIN.

SIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE, BOTTOM: 5/8" TOP: _____

RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEET

WATER " " _____ " " " NONE "

MUD " " _____ " " " 30' R.H. MUD "

GAS: NONE GAS OIL RATIO: _____

OTHER RESULTS: _____

SURFACE PRESSURES: NONE

BOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN 0* END OF TEST, TOOL OPEN 0* SHUT-IN FORMATION 0*

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM 16* DIFFERENCE _____

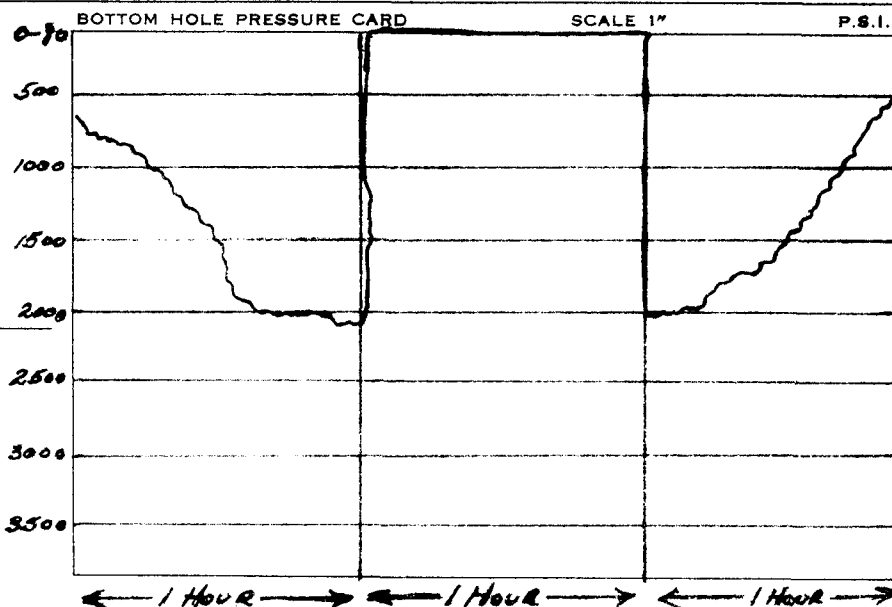
MUD COLUMN PRESSURE ON BOMB 2100* CALCULATED 2058* MUD WEIGHT 10* LBS./GAL.

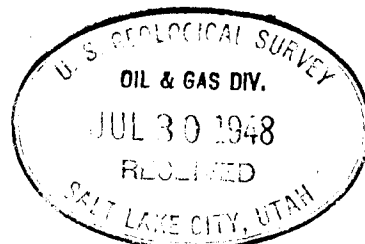
NUMBER OF TIMES TOOL OPENED 1 DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? No

DID FLUID DROP IN ANNULUS? No IS TEST CONCLUSIVE? YES

REMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)

PREPARED BY G. H. Kicker



STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORTLEASE: E.V. CALTENDEN WELL NO.: 1 TEST NO. 9FIELD: BARX ANTICLINE COUNTY: GRAND STATE: UTAHDATE AND TIME OF TEST: 7-16-48 8:13 A.M.NAME OF SECTION TESTED: NAVAJO (?) TESTED FROM 3839 TO 3898REASON FOR TEST: DETERMINE VALUE OF SANDSTONE POROSITYCOMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING Co.TYPE PACKER AND WHERE SET: WALL TYPE @ 3839TOP OF SAND OR PAY: _____ BASE OF SAND OR PAY: _____ TOTAL DEPTH: 3898WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 45 MIN.LENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 15 MIN.SIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE, BOTTOM: 5/8 TOP: _____RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEETWATER " " _____ " " " NONE "MUD " " _____ " " " 10' RATHOLE MUD "GAS: NONE GAS OIL RATIO: _____

OTHER RESULTS: _____

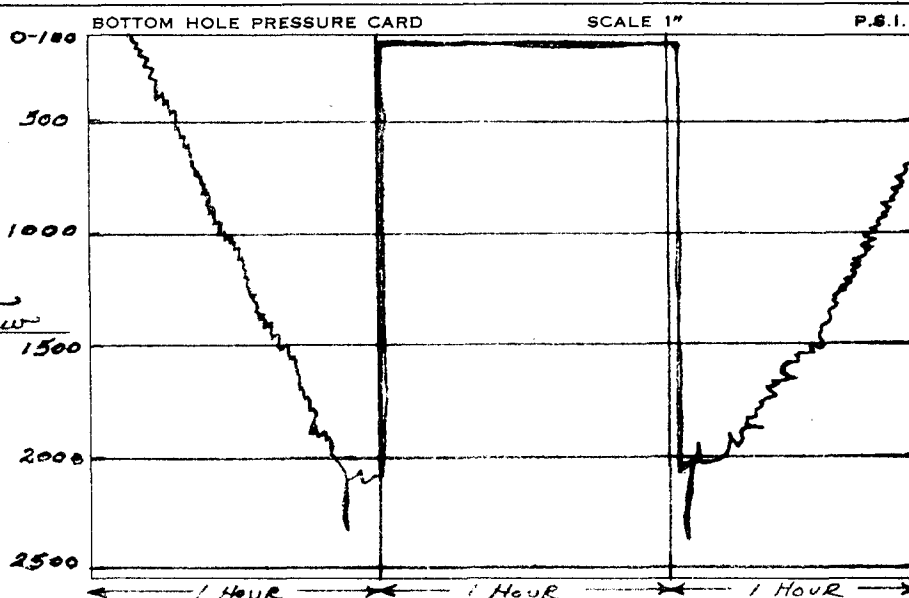
SURFACE PRESSURES: _____

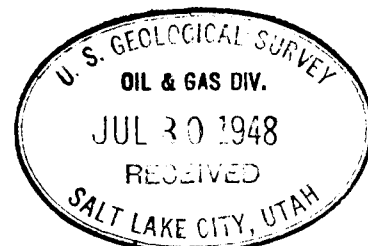
BOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN _____ END OF TEST, TOOL OPEN 0 # SHUT-IN FORMATION 0 #

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM 5 # DIFFERENCE _____MUD COLUMN PRESSURE ON BOMB 2050 # CALCULATED 2027 # MUD WEIGHT 10 LBS./GAL.NUMBER OF TIMES TOOL OPENED _____ DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? NoDID FLUID DROP IN ANNULUS? No IS TEST CONCLUSIVE? YESREMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)

PREPARED BY

L. F. Lakshman

STANOLIND OIL AND GAS COMPANY
DRILL STEM TEST REPORTLEASE: E.V. CRITTENDEN WELL NO.: 1 TEST NO. 8FIELD: BAR X ANTICLINE COUNTY: GRAND STATE: UTAHDATE AND TIME OF TEST: 7-13-48 8:45 AMNAME OF SECTION TESTED: KIENTA(?) TESTED FROM 3760' TO 3810'

REASON FOR TEST: _____

COMPANY MAKING TEST: HALLIBURTON OIL WELL CEMENTING Co.TYPE PACKER AND WHERE SET: WALL TYPE @ 3760'TOP OF SAND OR PAY: _____ BASE OF SAND OR PAY: _____ TOTAL DEPTH: 3810'WATER CUSHION, IF USED: NONE FEET. LENGTH OF TIME TOOL OPENED: 1 HourLENGTH OF TIME TOOL CLOSED FOR FORMATION PRESSURE: 15 MIN.SIZE OF TUBING OR DRILL PIPE: 4 1/2" API CHOKE SIZE: BOTTOM: 5/8" TOP: _____RESULTS OIL, FLOWING RATE _____ OR HEIGHT RECOVERED NONE FEET

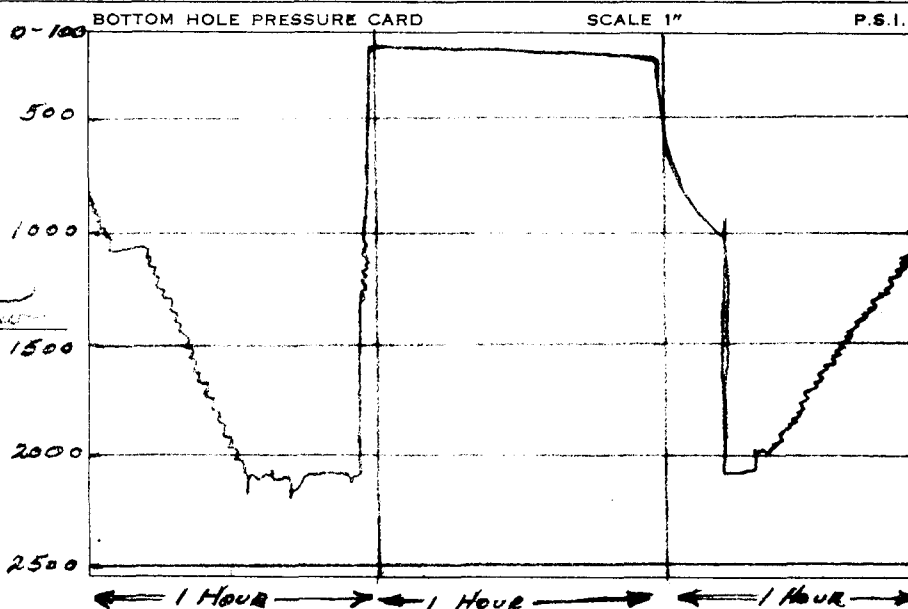
WATER " " " " " "

MUD " " " " " 210' (RAT HOLE MUD)GAS: NONE GAS OIL RATIO: _____

OTHER RESULTS: _____

SURFACE PRESSURES: NONEBOTTOM HOLE PRESSURES: BEGINNING OF TEST, TOOL OPEN, 0" END OF TEST, TOOL OPEN 200" SHUT-IN FORMATION 1025

PRESSURE BALANCE (NOT APPLICABLE IF WELL FLOWS ON TEST): _____

BOMB PRESSURE, TOOL OPEN _____ CALCULATED PRESSURE OF FLUID COLUMN IN DRILL STEM 109" DIFFERENCE _____MUD COLUMN PRESSURE ON BOMB 2125" CALCULATED 1981" MUD WEIGHT 10 LBS./GAL.NUMBER OF TIMES TOOL OPENED 1 DID PACKER HOLD? YES DID BOTTOM CHOKE PLUG? NoDID FLUID DROP IN ANNULUS? No IS TEST CONCLUSIVE? YESREMARKS: _____
(OMIT UNLESS OTHER PERTINENT INFORMATION AVAILABLE)PREPARED BY B. H. Baker

Form 9-330

Get Bureau No. 42-R355.
Approval expires 11-30-48.U. S. LAND OFFICE **Salt Lake City**
SERIAL NUMBER **064806**
LEASE OR PERMIT TO PROCEEDUNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OIL & GAS DIV.

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company **Stambind Oil and Gas Company** Address **Loyd, Colorado**
 Lessor or Tract **C. V. Crittendon** Field **Bar-X-Anticline** State **Utah**
 Well No. **1** Sec. **12** T. **17R.** **25** Meridian **Grand** County **Grand**
 Location **12-3/8 496** N. of **400** Line and **600** W. of **10.3#/Gal** Line of **Sec. 12** Elevation **5008**
 (Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon
 so far as can be determined from all available records.

Signed

Title **Field Superintendent**Date **January 31, 1949**

The summary on this page is for the condition of the well at above date.

Commenced drilling **June 8,** 19**48** Finished drilling **August 3,** 19**48**
 Released to The Frontier Refining Co.

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from (G) **2218** to **2965** No. 4, from (G) **3608** to **3839**
 No. 2, from (G) **2965** to **2996** No. 5, from (G) to **4325**
 No. 3, from (G) **2996** to **3608** No. 6, from to

IMPORTANT WATER SANDS

No. 1, from **3608** to **3839** No. 3, from to
 No. 2, from to No. 4, from to

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
15-3/8" It is the policy of the Department of the Interior to make a complete history of the well. Please state in detail the dates of recording, together with the names of the persons who made the record. If the well is abandoned, please state the date and the reason therefor. If the well is abandoned, please state the date and the reason therefor. If the well is abandoned, please state the date and the reason therefor.									
15-3/8" It is the policy of the Department of the Interior to make a complete history of the well. Please state in detail the dates of recording, together with the names of the persons who made the record. If the well is abandoned, please state the date and the reason therefor. If the well is abandoned, please state the date and the reason therefor. If the well is abandoned, please state the date and the reason therefor.									
15-3/8" It is the policy of the Department of the Interior to make a complete history of the well. Please state in detail the dates of recording, together with the names of the persons who made the record. If the well is abandoned, please state the date and the reason therefor. If the well is abandoned, please state the date and the reason therefor. If the well is abandoned, please state the date and the reason therefor.									
HISTORY OF OIL OR GAS WELL									
							10-13001	U. S. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT	

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
12-3/8 496	402	402	Halliburton	10.3#/Gal	

Heaving plug Material

Length

Depth set

Adjoining Material

Size

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from 0 feet to 4497 feet, and from feet to feet
 Cable tools were used from feet to feet, and from feet to feet

DATES

19 Put to producing , 19

The production for the first 24 hours was barrels of fluid of which % was oil; %
 emulsion; % water; and % sediment. Gravity, °Bé.

If gas well, cu. ft. per 24 hours Gallons gasoline per 1,000 cu. ft. of gas

Rock pressure, lbs. per sq. in.

EMPLOYEES

J. A. Turner , Driller G. W. Chivers , Driller
Marvin Jackson , Driller , Driller

FORMATION RECORD

FROM	TO	TOTAL FEET	FORMATION
0	40	40	Gravel
0	66	26	Gravel and Shale
6	548	482	Shale and Sandy Shale
3	2712	2164	Shale, Hard and Sandy in streaks, Red
	3056	892	Hard black shale and sandstone, top Dakota 2818 top Lakota 2965, Top Morrison 2996
	3590	534	Gray and red sandy shale
	3810	220	Sandstone. Top Entrada 3608
	3949	139	Sandstone and shale. Top Navajo 3839
	4262	313	Sandstone
	4382	70	Shale and Sand. Top Redbeds 4325
	4483	150	Redbeds. Top Granite at 4483 *
			* Well released to Frontier Refining Company at this depth
FROM	TO	TOTAL FEET	FORMATION

(OVER)

FORMATION RECORD—Continued

10-43094-1

Salt Lake City ✓

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office **Salt Lake City**

Lease No. **064806**

Unit

AUG 10 1948

RECEIVED
CASPER, WYOMING

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....
NOTICE OF INTENTION TO ABANDON WELL.....	

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

August 8, 1948

Well No. 1 is located 660 ft. from S line and 660 ft. from E line of sec. 12
SE 1/4 Sec. 12 17 S 25 E S. L. M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Bar-X Grand Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is Not determined ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

1. Set cement plug 4005' to 4050'.
2. Set cement plug 3850' to 3900'.
3. Run 3850' 7" J-55 23# new seamless casing. Cement same from approximately 3850' to 2600'.
4. Perforate 3716 and squeeze cement to make sure of H₂O shut-off.
5. Perforate and test zone 3550' to 3600'.

Approved AUG 11 1948

R. D. Ferguson
District Engineer

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company THE FRONTIER REFINING COMPANY

Address 420 BOSTON BUILDING

DENVER, COLORADO

By *E. C. Foreman*

Title Geologist

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City
Lease No. 064806
Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	completion history	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

September 1, 1948

Well No. 1 is located 660 ft. from S line and 660 ft. from E line of sec. 12
SE 1/4 - 12
SE 1/4 - 16
 (1/4 Sec. and Sec. No.)
Bar "X" Grand Utah
 (Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is _____ ft. Not determined

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

- Set 10 sk plug 4015 - 4040
- Set 10 sk plug 3865 - 3890
- Ran 3840' 7" 23# Casing cemented w/289 sx. final pressure 1400#
- Perforated w/10 shots 3645 - 3650
- Squeezed w/25 sx @ 3640
- Perforated w/40 shots 3630 - 3640
- Set retainer @ 3620 & squeezed w/25 sx
- Perforated w/20 sx 3615 - 3620
- Set retainer @ 3610' squeezed w/ 25 sx
- Put 7 sx thru perforations.
- Perforated 3605 - 3610 w/20 shots.
 ~~Shut well down & found Under-~~
 ~~lying salt water shut off.~~
- Perforated 3555 to 3610 (T.D.) w/6 shots/ft (5/8" bullets)
- Potentialled well thru orifice meter using variable choke. Open flow Potential 3,750,000 cu. ft. per day. Flow on 3/8" choke 2,000,000 cu.ft. per day. Casing pressure 530# Tubing pressure 475#
- Well shut in & shelter placed over christmas tree. Completed 8/23/48.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

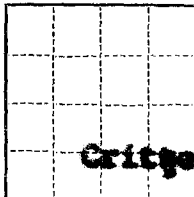
Company The Frontier Refining Company

Address 410 Boston Building

Denver 2, Colorado

By C. O. Brander

Title Geologist



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYLand Office **Salt Lake City**
Lease No. **064806**
Unit **Bar "X"**

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....
NOTICE OF INTENTION TO ABANDON WELL.....	
Notice of Intention to Rework Well X	

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

February 28, 19 56

Well No. 1 is located 660 ft. from 1/4 line and 660 ft. from E line of sec. 12
SE 1/4 of Sec. 12 17S 25E SLM
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Bar "X" Grand Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5259 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

The well is presently producing from the Entrada through perforation 3550-3610. It is proposed to kill the well and pull tubing. A cast iron plug will be set at approximately 3350 and the Salt Wash section of the Morrison will be perforated from 3224-3240 and from 3248-3272 and a production type DST run. A plug will then be set at approximately 3120 and the casing perforated from 3016-3036 and from 2960-2990 and a production type DST run. A plug will then be set at approximately 2920 and the Dakota will be perforated from 2816-2846 and a production type DST will be run. If commercial quantities of gas are indicated by this production type DST, the Dakota sand will be fraced and the well completed as a Dakota gas well.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company The American Metal Company, LimitedAddress 1845 Sherman StreetDenver 3, ColoradoApproved FEB 22 1956
By [Signature]
District EngineerTitle Supervising Petroleum Engineer

THE AMERICAN METAL COMPANY, LIMITED
61 BROADWAY
NEW YORK 6, N.Y.

TELEPHONE BOWLING GREEN 9-1800
CABLE ADDRESS: EFFLUX, NEW YORK

PLEASE ADDRESS REPLY TO A. J. Carter, Jr. - 1845 Sherman St. - Denver 3
SUBJECT: Crittenden #1

March 2, 1956

Mr. Herbert F. Smart
Oil & Gas Conservation Commission
Room 105 - State Capitol Bldg.
Salt Lake City, Utah

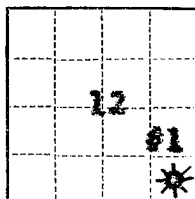
Dear Mr. Smart:

Enclosed is an approved copy of Form 9-331a,
"Notice of Intention to Rework Well" on the
Crittenden #1 well in Grand County, Utah.

Yours very truly,

A. J. Carter, Jr.
A. J. Carter, Jr. (E.H.)
Supervising Petroleum Engineer

AJC, Jr./eh
Encl.



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office **Salt Lake City**
Lease No. **SLC #064806**
Unit **Bar "X"**

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	X
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 30, 19 56

Crittenden #1
Well No. _____ is located **660** ft. from **S** line and **660** ft. from **E** line of sec. **12**

SE/4 SE/4 Sec. 12 **T17S** **R25E** **SLBM**
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Bar "X" **Grand** **Utah**
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is **5260** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

- 2/24/56 Moving rig from Bar "X" #5 to Crittenden No. 1
2/25/56 Moving and rigging up rotary tools.
2/26/56 Finished rigging up. Measurement from casing head flange to rotary table was 11.65' and measurement from tubing head flange to rotary table was 9.75'. All measurements zeroed at rotary table. Elevation of rotary table was 5260'. Blew well down and killed Entrada sand with rotary mud. Pulled 2-7/8" O.D., E.U.E., 6.5#, 8 rd. thd., sal. st. tubing. All perforated intervals as per Gamma Ray-Neutron log measurements.

(continued on attached sheets)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **The American Metal Company, Limited**
Address **Room 412**
1845 Sherman St.
Denver 3, Colorado
By **A. J. Carter, Jr.**
Title **Supervising Petroleum Engineer**

- 2/27/56 Ran McCullough Gamma Ray-Neutron log with collar locator. Set Baker C.I. bridging plug at 3350'. Placed 5 sx. cement on top of plug. New P.B.T.D. = 3325'. Perforated the Salt Wash member of the Morrison formation from 3224' to 3240' and from 3248-3272', with McCullough super casing jet, four holes per foot. Ran production DST #1 from 3215' to 3325'. Tool open 18 hrs., S.I. 1 hour. Gas to surface in 2 min. Mud to surface in 19 min. Gas gauged 663 MCF open flow at end of test. IHP = 1530 psig; IFP = 155 psig; FFP = 155 psig; SIBHP = 950 psig maximum; FHP = 1530 psig.
- 2/28/56 Pulled production DST #1. Set a Baker DM plug at 3120'. Perforated Upper Morrison sand from 2960-2990' and from 3016 to 3036' with McCullough super casing jets, four to the foot.
- 2/29/56 Ran prod. DST #2 from 2943 to 3120'. Tool open 11 hrs., S.I. 30 min. Gas and mud to surface in 3 min. Gas gauged 3100 MCF open flow at end of test. IHP = 1385 psig; IFP = 545 psig; FFP = 505 psig; SIBHP = 835 psig maximum; FHP = 1385 psig. Tested for communications and/or lack of a cement job over the Dakota sand by perforating from 2756-2757' with four McCullough super casing jets. Ran 2-7/8" O.D. tubing with Halliburton NM tool set at 2928' and pressured tubing with mud. Circulated mud between 2-7/8" O.D. tubing and 7" casing with 900 psig which proved either a channel and/or no cement between perforations at 2960 to 3036', and perforations at 2756 to 2757'.
- 3/1/56 Ran Halliburton EM squeeze packer set at 2954' and established circulation between perforations at 2960 to 3036' and perforations at 2756 to 2757' with 600 psig. Started to cement and had approximately 35 sx. cement mixed when perforations at 2756 to 2757' plugged and squeezed 65 sx. additional cement into the formation at 2800 psig. Used a total of 100 sx. cement. WOC.
- 3/2/56 WOC. Pressured 7" O.D. casing to 1100 psig, and perforations 2756 to 2757' held OK. Perforated Dakota sand from 2816 to 2846' with four McCullough M3 burrless bullets per foot. Ran prod. DST #3 from 2801 to 2954'. Tool open 4-1/2 hrs., S.I. 4 hrs. Gas to surface in 8 min. Gas gauged 121 MCF open flow at end of test. Rec. 315' of gas-cut mud in the 2-7/8" O.D. tubing. IHP = 1295 psig; IFP = 30 psig; FFP = 145 psig; SIBHP = 975 psig, maximum; FHP = 1295 psig. Obtained permission from the U.S.G.S. to dually complete well in the Morrison and Dakota formations. Therefore, it was necessary to drill the Halliburton EM type packer, squeeze job and Baker DM type bridging plug. Started drilling on Halliburton EM type packer at 2954'.
- 3/3/56 Drilling squeeze job and Baker DM type bridging plug. Conditioning mud.
- 3/4/56 Re-perforated Upper Morrison sand from 2960 to 2990' and from 3016 to 3036' with four McCullough M3 burrless bullets per foot.

3/4/56 (continued)

Ran 2-7/8" O.D. tubing with straddle packers. Bottom packer set at 3047' and top packer set at 2934'. Acidized with 1000 gals. MCA. Formation broke from 2500 psig to 1600 psig with an injection rate of 1 bpm. Flushed with 17.5 bbls. of Cisco crude. Swabbed well and started testing Upper Morrison sand. Upper Morrison sand gauged 3,000 MCF open flow at end of test. Unseated packers and straddled Dakota sand with bottom packer at 2861' and top packer at 2748'. Acidized Dakota sand perforations from 2816 to 2846' with 750 gals. MCA. Formation broke from 2000 psig to 1200 psig with an injection rate of 1.5 bpm. Flushed with 16.9 bbls. of Cisco crude.

3/5/56 Swabbed Dakota sand and tested after MCA job. Well gauged 170 MCF gas/day open flow from the Dakota sand. Unseated straddle packers and killed well.

3/6/56 Dressed straddle packers and went in hole to frac Salt Wash member of the Morrison formation. Bottom packer set at 3292' and top packer set at 3179' straddling perforations from 3224 to 3240' and 3248 to 3272'. Broke formation down with 15 bbls. of Cisco crude and pumped into Salt Wash at 2900 psig. Established circulation between the 7" O.D. casing and the 2-7/8" O.D. tubing. Unseated packers and reset in blank casing between the Salt Wash and Upper Morrison sand. Bottom packer at 3169' and top packer at 3057'. Pressured tubing to 3250 psig and pressure held, indicating that packers and tubing not leaking. Unseated packers and straddled Upper Morrison sand perforations from 2960 to 2990' and from 3016 to 3036'. Bottom packer at 3047' and top packer at 2935'. Broke down formation with 10 bbls. Cisco crude at 2400 psig. No circulation established between 7" O.D. casing and 2-7/8" O.D. tubing. Therefore, a channel existed between the Salt Wash perforations and the Upper Morrison sand perforations. At this point, the writer decided to frac the Salt Wash and the Upper Morrison sands, through straddle packers, straddling the Upper Morrison sand perforations from 2960 to 2990' and from 3016 to 3036'. Therefore, hydrafraced the Morrison formation as mentioned above with 10,000 gals. gel plus 9100# sand through perforations from 2960 to 2990' and from 3016 to 3036'. Formation took frac at 2850 psig and broke to 2700 psig with an injection rate of 6.5 bpm. Overflushed with 10 bbls. of Cisco crude.

3/7/56 Re-hydrafraced the Morrison formation with 10,000 gals. gel plus 14,600# sand through perforations from 2960 to 2990' and from 3016 to 3036'. Formation took frac at 2850 psig with an injection rate of 6.3 bpm. Overflushed with 40 bbls. Cisco crude.

Equalized pressures, unseated packers, and reset straddle packers with bottom packer at 2886' and top packer at 2773' straddling Dakota sand perforations from 2816 to 2846'.

3/7/56 (continued)

Broke down Dakota sand with 10 bbls. of Cisco crude at 2600 psig. No circulation established between 7" O.D. casing and 2-7/8" O.D. tubing. Hydrafraced with 7500 gals. gel plus 10,800# sand. Formation took frac at 2700 psig with an injection rate of 6 bpm. Overflushed with 30 bbls. of Cisco crude.

3/8/56 Equalized pressures and conditioned mud. Pulled straddle packers. Ran a Halliburton Type "C" production packer with Otis Type "FA" tubing nipple on top of stinger. Top of Type "C" packer at 2860'. Flanged-up head and kicked well off - flowing to the pits.

3/9/56 Flowing all zones to the pit. Set Otis side door choke in Otis Type "FA" tubing nipple. Flowing Dakota and Morrison separately to the pits. Otis choke and Type "C" production packer holding OK.

3/10/56 Morrison formation gauged an estimated 7500 MCF gas/day open flow and Dakota formation gauged an estimated 4500 MCF gas/day open flow. The 3" master tubing valve was leaking so set Otis blanking choke in the 2-7/8" O.D. tubing and replaced with a new one. Buttoned-up Christmas tree. Rig released at 12:00 noon.

THE AMERICAN METAL COMPANY, LIMITED

412 SHELL BUILDING
1845 SHERMAN STREET
DENVER 3, COLORADO
TELEPHONE CHERRY 4-4423

MAIN OFFICE
61 BROADWAY
NEW YORK 6, N. Y.

April 9, 1956

Mr. Herbert F. Smart
Oil & Gas Conservation Commission
Room 105 - State Capitol Bldg.
Salt Lake City, Utah

Dear Mr. Smart:

I am enclosing an approved copy of Form 9-331a,
"Notice of Intention to Re-Drill or Repair Well" on
the Crittenden No. 1 well in Grand County, Utah.

Yours very truly,



A. J. Carter, Jr.
Supervising Petroleum Engineer

AJC, Jr./eh
Encl.

TERRA RESOURCES, INC.

March, 1970

Division of Oil and Gas Conservation

1588 West North Temple

Salt Lake City, Utah 84116

Re: Initial Report
Terra Resources, Inc.

Effective March 1, 1970, a reorganization of CRA, Inc., a Kansas corporation, occurred. Effective that date the Production and Exploration Divisions of CRA, Inc. were incorporated with the name Terra Resources, Inc. in the State of Delaware.

Attached hereto is Terra Resources, Inc.'s initial report. It covers operation of the leases indicated for the period beginning March 1, 1970.

Please address all future correspondence related to these leases as follows:

Terra Resources, Inc.
Taxation Department
Fourth National Bank Building
Tulsa, Oklahoma 74119

Very truly yours,


M. E. Krause, Controller

MEK:cm
Attachment

THE FOLLOWING METERS WILL HAVE CALIBRATION / SETTLEMENT TESTS RUN ON THE DATES INDICATED. STARTING TIME WILL BE 0800 OR AS SPECIFIED BELOW AND AT THE OFFICE OF THE NORTHWEST PIPELINE GRAND JUNCTION DISTRICT YOU WILL BE NOTIFIED SHOULD ANY CHANGES OCCUR IN THIS SCHEDULE. IF YOU HAVE ANY QUESTIONS ABOUT THE SCHEDULE, CONTACT OR WRITE THE DISTRICT OFFICE.

METER CODE	WELL NAME	LOC	RUN	DAY	MO/YR	STARTING TIME
93772016	BAR X #16	06	02	<u>18</u>	12/85	<u>0800</u>
92002012	BAR X #4 17S. 24E. 18	06	12	<u>1</u>	11/85	<u>T.D.</u>
92003019	BAR X #6 CS 17S. 25E. 11	06	12	<u>13</u>	11/85	<u>1100</u>
92005011	CRITTENDON #1 CASING 17S. 25 12	06	12	<u>13</u>	11/85	<u>1000</u>
92006018	CRITTENDON #1 TUBING " "	06	12	<u>13</u>	11/85	<u>0900</u>
92013014	BAR X #5 17S. 24E. 17	06	12	<u>6</u>	11/85	<u>1000</u>
92292010	BAR X #12 17S. 24E. 17	06	12	<u>6</u>	11/85	<u>1100</u>
92293017	BAR X #13 17S. 24E. 7	06	12	<u>13</u>	11/85	<u>0800</u>
93549015	BAR X #9	06	12	<u>6</u>	11/85	<u>0900</u>
92100012	BAR X #5 17S. 25E. 11	06	12	<u>3</u>	12/85	<u>0900</u>

COMPANY: Terra Resources UT ACCOUNT # 00960 SUSPENSE DATE: 1-29-88

WELL NAME: Crittenden #1

TELEPHONE CONTACT DOCUMENTATION

API #: 43019 15027

SEC, TWP, RNG: 17S 25E 12

CONTACT NAME: Linda Moore

CONTACT TELEPHONE NO.: 1-307-237-8461

SUBJECT: Well was in computer commingled as DK-MR. Should have been dually completed as DKTA & MRSN. We have the separate amounts through May 1984. Then the figures were added together.

(Use attachments if necessary)

RESULTS: I asked Linda for the separate amounts. She will send the purchase orders (copies) and I told her we would do all the work. She said this would take awhile and I told her we would not rush her on this.

(Use attachments if necessary)

CONTACTED BY: VC

DATE: 12-8-87

LONE MOUNTAIN PRODUCTION COMPANY

P.O. BOX 3394
408 PETROLEUM BUILDING
BILLINGS, MONTANA 59103-3394
(406) 245-5077

March 8, 1989

RECEIVED
MAR 10 1989

DIVISION OF
OIL, GAS & MINING

DIVISION OF OIL, GAS & MINING
STATE OF UTAH
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180

Re: Bar-X Unit
GRAND COUNTY, UTAH and
MESA COUNTY, COLORADO

Gentlemen:

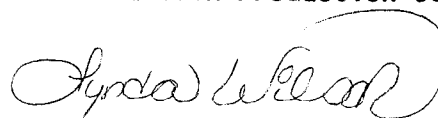
Following is a list of wells and well locations which make up the Utah portion of the Bar-X Unit. Change of operator for this unit was effective January 1, 1989.

019-15022 Crittenden No. 1	SE SE Section 12: T17S-R25E, Grand Co., UT
019-15022 Bar-X Unit No. 3	NE SW Section 12: T17S-R25E, Grand Co., UT
019-15023 Bar-X Unit No. 4	NE NE Section 18: T17S-R26E, Grand Co., UT
019-15024 Bar-X Unit No. 5	SE NE Section 17: T17S-R26E, Grand Co., UT
019-15025 Bar-X Unit No. 6	SE NE Section 11: T17S-R25E, Grand Co., UT
019-15026 Bar-X Unit No. 7	NW NE Section 7: T17S-R26E, Grand Co., UT
019-30494 Bar-X Unit NO. 8	NE NW Section 11: T17S-R25E, Grand Co., UT
019-30597 Bar-X Unit No. 12	NW SE Section 8: T17S-R26E, Grand Co., UT
019-30598 Bar-X Unit No. 13	NW SW Section 7: T17S-R26E, Grand Co., UT

Should you require any further information, please feel free to call.

Very truly yours,

Lone Mountain Production Company



Lynda Wilson

/lw

LONE MOUNTAIN PRODUCTION COMPANY

P.O. BOX 3394
408 PETROLEUM BUILDING
BILLINGS, MONTANA 59103-3394
(406) 245-5077

RECEIVED
OCT 26 1989

DIVISION OF
OIL, GAS & MINING

October 24, 1989

Division of Oil, Gas & Mining
State of Utah
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180

Gentlemen:

Enclosed are Sundry Notices to commingle the Dakota and Morrison production on the Bar-X Unit Wells No. 6 and Crittenden No. 1.

Commingling will result in improved operating conditions and less waste of gas necessitated by blowing the wells to remove accumulated fluids from the wellbore.

Your expedient approval of these notices will be appreciated. We hope to get a rig and perform the work in mid-November.

If you have any question, please feel free to give me a call.

Very truly yours,

LONE MOUNTAIN PRODUCTION COMPANY


James G. Routson

JGR:tlm

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

SLC 064806

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or to plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

RECEIVED
OCT 26 1989

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

Lone Mountain Production Company

3. ADDRESS OF OPERATOR

408 Petroleum Building, P.O. Box 3394, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface

660' FSL, 660' FEL

14. PERMIT NO.

43-019-15027

15. ELEVATIONS (Show whether DP, RT, OM, etc.)

5259 DF

7. UNIT AGREEMENT NAME

Bar-X

8. FARM OR LEASE NAME

Federal

9. WELL NO.

Crittenden No. 1

10. FIELD AND POOL, OR WILDCAT

Bar-X

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

SE1/4 Sec. 12-T17S-R25E

12. COUNTY OR PARISH

Grand

13. STATE

Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other) Commingle Production

X

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and cased intervals to this work.)*

This well has been producing dual completed from the Morrison and Dakota since 1956. Both zones have been produced into the same pipeline and should have similar pressures. Lone Mountain is installing a lower pressure line and hereby requests approval to commingle the Dakota and Morrison. Commingling will allow higher gas velocities up the tubing for lifting fluids, thereby eliminating the need to "blow" the well as often. Commingling orders are currently in effect on lands adjacent to the Bar-X Unit, as well as other Bar-X Unit wells.

OIL AND GAS	
DRN	RJF
✓ JRB ✓	GLH
DTS	SLS
2-TAS	
3-	MICROFILM ✓
4-	FILE

18. I hereby certify that the foregoing is true and correct

SIGNED

James G. Routson

TITLE Petroleum Engineer

DATE October 24, 1989

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE 11-1-89

BY John R. Dyer

Federal approval of this action
is required before commencing
operations.

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIAL
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

SLC 064806

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Bar-X

8. FARM OR LEASE NAME

Federal

9. WELL NO.

Crittenden No. 1

10. FIELD AND POOL, OR WILDCAT

Bar-X

11. SEC., T., R., M., OR BLM. AND
COUNTY OR AREA

SE1SE1 Sec. 12-T17S-R25E

12. COUNTY OR PARISH 13. STATE

Grand

Utah

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or to back to a different reservoir.
Use "APPLICATION FOR PERMIT" for proposals.)

RECEIVED
OCT 26 1989

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

Lone Mountain Production Company

3. ADDRESS OF OPERATOR

408 Petroleum Building, P.O. Box 3394, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

660' FSL, 660' FEL

14. PERMIT NO.

15. ELEVATIONS (Show whether DP, RT, GR, etc.)

5259 DF

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETION

ABANDON*

CHANGE PLANS

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

SUBSEQUENT REPORT OF:

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Commingling Production

X

(NOTE: Report results of multiple completion on Well Completion or Recore Completion Report and Log form.)

This well has been producing dual completed from the Morrison and Dakota since 1956. Both zones have been produced into the same pipeline and should have similar pressures. Lone Mountain is installing a lower pressure line and hereby requests approval to commingle the Dakota and Morrison. Commingling will allow higher gas velocities up the tubing for lifting fluids, thereby eliminating the need to "blow" the well as often. Commingling orders are currently in effect on lands adjacent to the Bar-X Unit, as well as other Bar-X Unit wells.

COPY

RECEIVED

FEB 18 1990

DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED

James G. Routson

TITLE Petroleum Engineer

DATE October 24, 1989

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

Federal approval of this action
is required before commencing
operations.

*See Instructions on Reverse Side

ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE 11-1-89

BY [Signature]

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

03/05/92

* * * basic well information * * *

menu: option 00

api number: 4301915027
producing zone: DK-MR
producing entity: 455 BAR X UNIT/DK-MR B
well name: CRITTENDEN #1
operator: N7210 LONE MTN PRODUCTION CO
field: 160 BAR X
section: 12 township: 17.0 S range: 25.0 E
qtr-qtr: SESE meridian: S
cumulative oil prod:
cumulative gas prod:
cumulative wtr prod:
alternative address code:
enter 'c' if production is confidential:
enter date confidential expires (yyddmm):

enter 'x' to delete record:

opt: 47 api: 4301915027 zone: DK-MR date(yy mm): enty: acct:

03/05/92

* * * basic well information * * *

menu: option 00

api num: 4301915027 prod zone: DK-MR sec twnshp range qr-qr
entity: 455 (BAR X UNIT/DK-MR B 12 17.0 S 25.0 E SESE
well name: CRITTENDEN #1
operator: N7210 (LONE MTN PRODUCTION CO meridian: S
field: 160 (BAR X
confidential flag: confidential expires: alt addr flag:
* * * application to drill, deepen, or plug back * * *
lease number: SL-064806 lease type: 1 well type: GW
surface loc: 0660 FSL 0660 FEL unit name:
prod zone loc: 0660 FSL 0660 FEL depth: 4250 proposed zone:
elevation: 5210' apd date: 480512 auth code:
* * * completion report information * * *
spud date: 480608 compl date: 891209 date recd:
producing intervals: 2810-3716' total depth: 4497'
bottom hole: 0660 FSL 0660 FEL first prod: well status: PGW
24hr oil: 24hr gas: 24hr water: gas/oil ratio:
* * * well comments * * *
api gravity:
920305 TA'D BOTH DKTA & MRSN PZ:COMMINGLED EFF 12/9/89:

opt: 48 api: 4301915027 zone: DK-MR date(yy mm): enty: acct:

03/05/92 D E T A I L W E L L D A T A menu: opt 00
 api num: 4301915027 prod zone: DKTA sec twnshp range qr-qr
 entity: 455 : BAR X UNIT/DK-MR B 12 17.0 S 25.0 E SESE
 well name: CRITTENDEN #1
 operator: N7210 : LONE MTN PRODUCTION CO meridian: S
 field: 160 : BAR X
 confidential flag: confidential expires: alt addr flag:
 * * * application to drill, deepen, or plug back * * *
 lease number: SL-064806 lease type: 1 well type: GW
 surface loc: 0660 FSL 0660 FEL unit name:
 prod zone loc: 0660 FSL 0660 FEL depth: 4250 proposed zone:
 elevation: 5210' apd date: 480512 auth code:
 * * * completion report information * * * date recd:
 spud date: 480608 compl date: 480823 total depth: 4497'
 producing intervals: 2810-3215'
 bottom hole: 0660 FSL 0660 FEL first prod: well status: TA
 24hr oil: 24hr gas: 24hr water: gas/oil ratio:
 * * well comments: api gravity:
 871116 DKTA PZ ADDED, SHLD HAVE BEEN DUAL COMPL NOT COMMINGLED AS DK-MR SEE
 ALSO MRSN PZ:880926 1987 CUM BASE ADJUSTED:890315 CHG OF OPER FR N0960 EFF
 1/1/89:920305 COMMINGLED AS DK-MR EFF 12/9/89 SEE ALSO:
 opt: 21 api: 4301915027 zone: DK-MR date(yy-mm): enty acct:

03/05/92 D E T A I L W E L L D A T A menu: opt 00
 api num: 4301915027 prod zone: MRSN sec twnshp range qr-qr
 entity: 455 : BAR X UNIT/DK-MR B 12 17.0 S 25.0 E SESE
 well name: CRITTENDEN #1
 operator: N7210 : LONE MTN PRODUCTION CO meridian: S
 field: 160 : BAR X
 confidential flag: confidential expires: alt addr flag:
 * * * application to drill, deepen, or plug back * * *
 lease number: SL-064806 lease type: 1 well type: GW
 surface loc: 0660 FSL 0660 FEL unit name:
 prod zone loc: 0660 FSL 0660 FEL depth: 4250 proposed zone:
 elevation: 5210' apd date: 480512 auth code:
 * * * completion report information * * * date recd:
 spud date: 480608 compl date: 480823 total depth: 4497'
 producing intervals: 3533-3716'
 bottom hole: 0660 FSL 0660 FEL first prod: well status: TA
 24hr oil: 24hr gas: 24hr water: gas/oil ratio:
 * * well comments: api gravity:
 RELEASED TO THE FRONTIER REFINING CO.:871116 WELL SHD HAVE BEEN DUAL COMPL-
 NOT COMMINGLED-SEPARATED PZ'S AND REQSTED CUM SEARCH:880926 CUM BASE ADJUSTED
 890315 CHG OF OPER 1/1/89:920305 COMMINGLED DK-MR EFF 12/9/89 SEE ALSO:
 opt: 21 api: 4301915027 zone: DK-MR date(yy-mm): enty acct:

LONE MOUNTAIN PRODUCTION COMPANY

P.O. BOX 3394
408 PETROLEUM BUILDING
BILLINGS, MONTANA 59103-3394
(406) 245-5077
FAX 248-6321

February 14, 1992

STATE OF UTAH DEPT. OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
355 West North Temple
3 Triad Center
Suite 350
Salt Lake City, Utah 84180-1203

Re: *Bar-X #1 Crittenden*
SE SE Section 12: T17S-R25E

Bar-X #6
SE NE Section 11: T17S-R25E

Gentlemen:

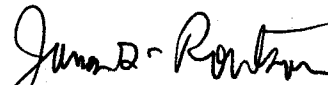
Enclosed please find three copies of our SUNDRY NOTICE - Subsequent Report of Commingling for the captioned wells, both located in Grand County, Utah.

We are also attaching for your records a copy of the SUNDRY NOTICE - Notice of Intent to Commingle for both of these wells.

Should any further information be needed, please advise.

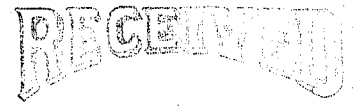
Yours very truly,

Lone Mountain Production Company


James G. Routson

JGR/lw

Enclosures



FEB 18 1992

DIVISION OF
OIL GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE
(Other instructions on
reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SLC 064806
2. NAME OF OPERATOR LONE MOUNTAIN PRODUCTION COMPANY		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 408 Petroleum Bldg., P. O. Box 3394, Billings, Montana 59103		7. UNIT AGREEMENT NAME Bar-X
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 660' FSL, 660' FEL		8. FARM OR LEASE NAME Federal
14. PERMIT NO. 43-019-15027		9. WELL NO. Crittenden No. 1
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5259' DF		10. FIELD AND POOL, OR WILDCAT Bar-X
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SE SE Sec. 12: T17S-R25E
17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)		12. COUNTY OR PARISH Grand
13. STATE UT		

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETION

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(Other)

COMINGLING

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

On December 9, 1989, this well was commingled (the Dakota and Morrison formations).

A Sundry Notice of Intent to commingle was filed with the State of Utah on October 24, 1989 and was approved & accepted by the State on November 1, 1989 (copy attached).

RECEIVED

FEB 18 1992

DIVISION OF
OIL GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED

James G. Routson

TITLE Petroleum Engineer

DATE February 14, 1992

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY: